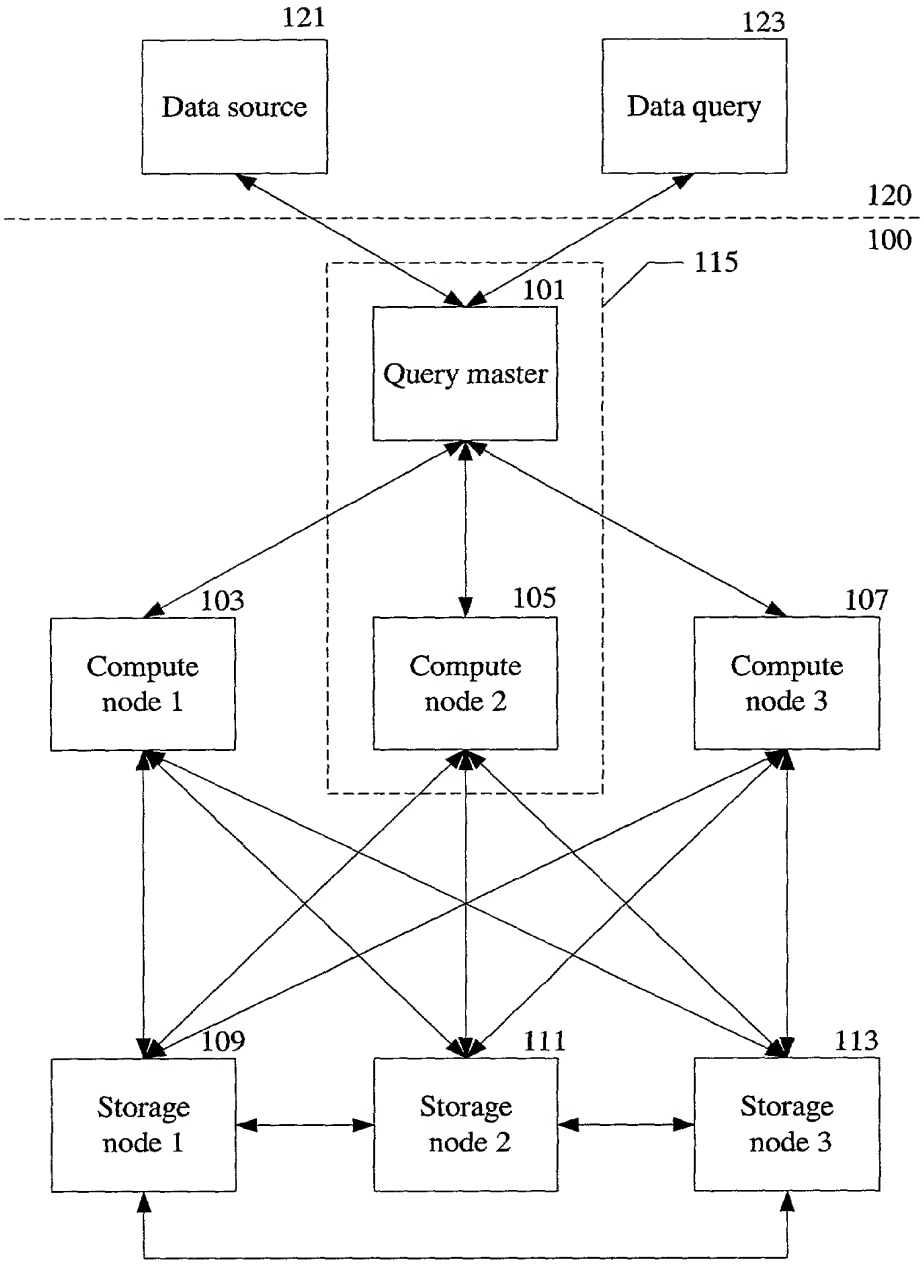
121
Data source
123
Data query
120
100
115
101
Query master
103
Compute node 1
105
Compute node 2
107
Compute node 3
109
Storage node 1
111
Storage node 2
113
Storage node 3

Figure 1A

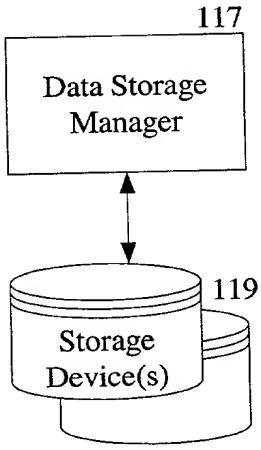

Figure 1B

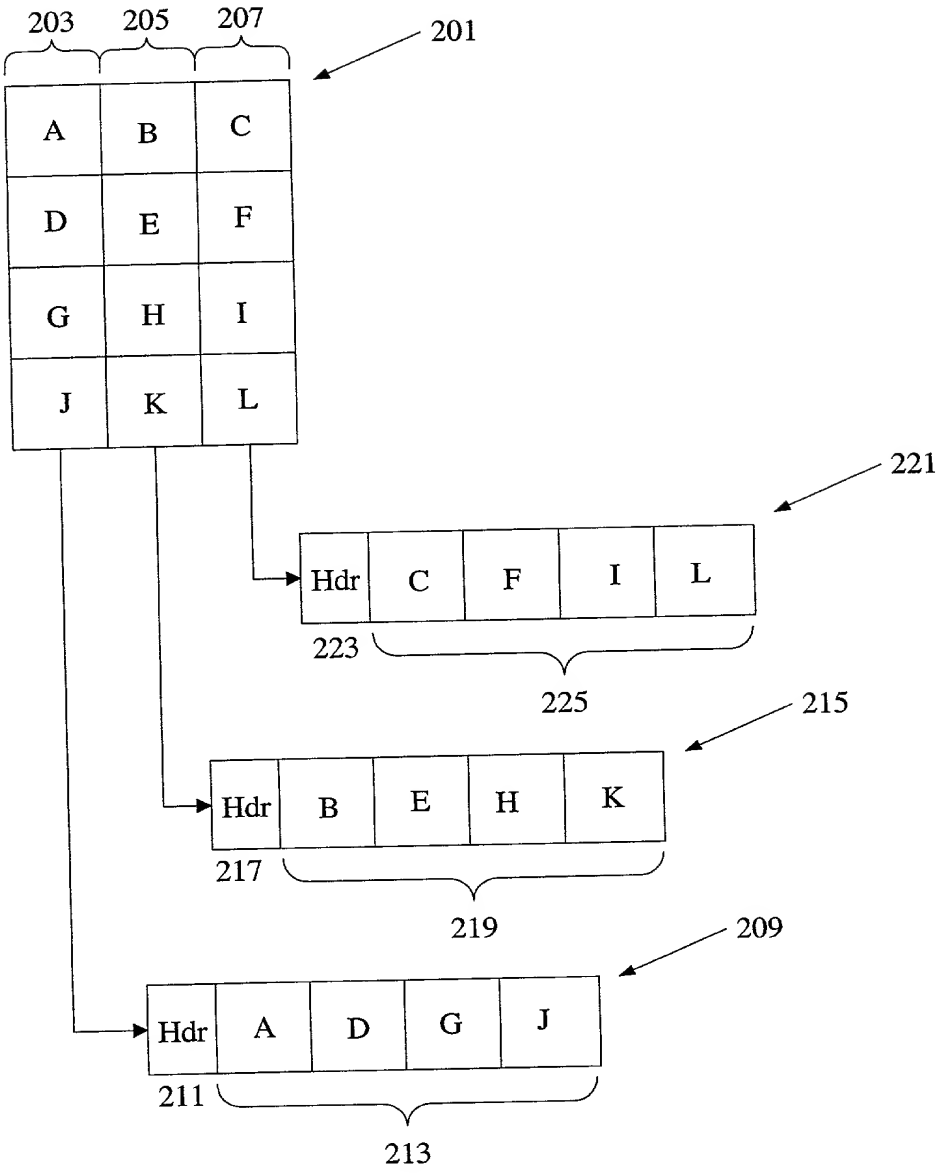
203
205
207
201
A
B
C
D
E
F
G
H
I
J
K
L
221
Hdr
C
F
I
L
223
225
215
Hdr
B
E
H
K
217
219
209
Hdr
A
D
G
J
211
213

Figure 2A

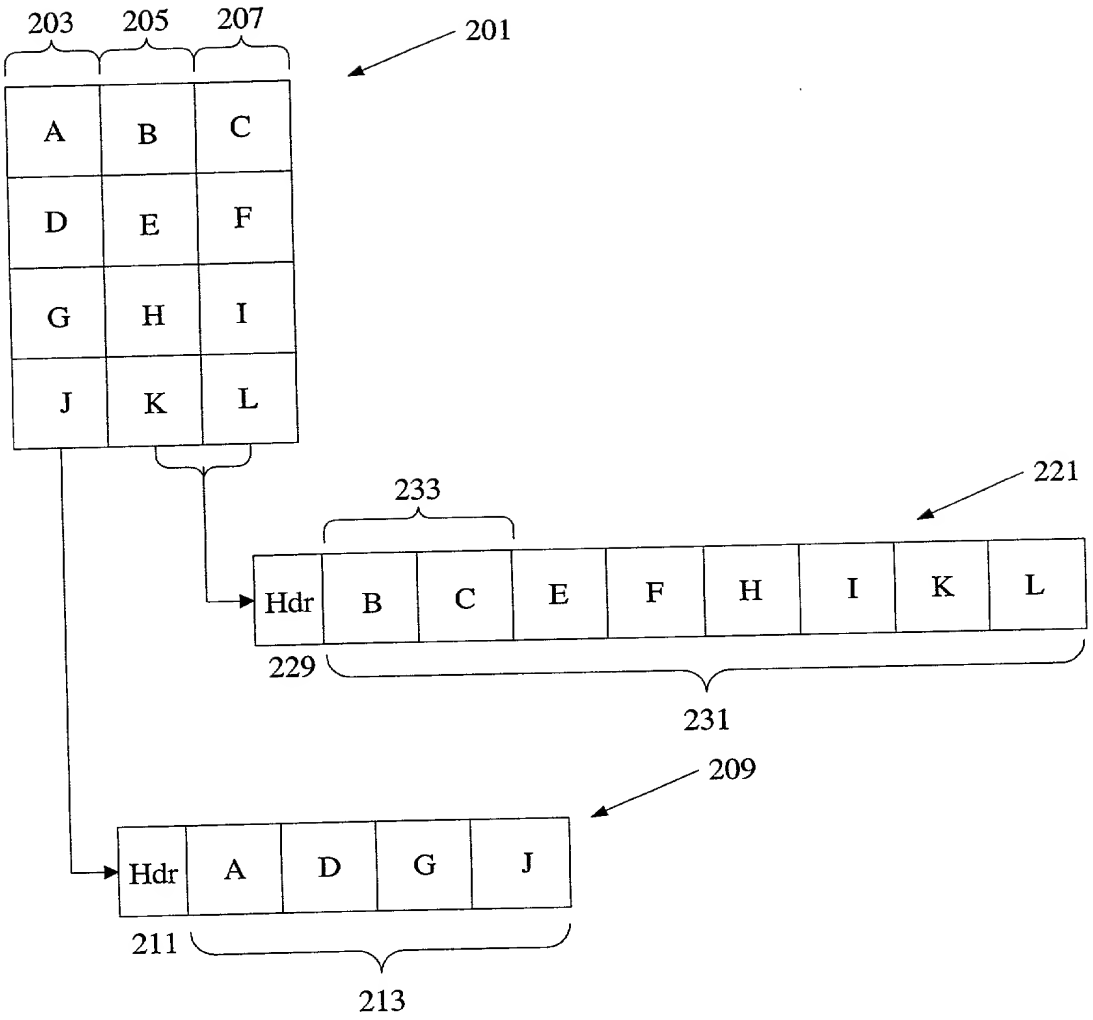
203
205
207
201
A
B
C
D
E
F
G
H
I
J
K
L
233
221
Hdr
B
C
E
F
H
I
K
L
229
231
209
Hdr
A
D
G
J
211
213

Figure 2B

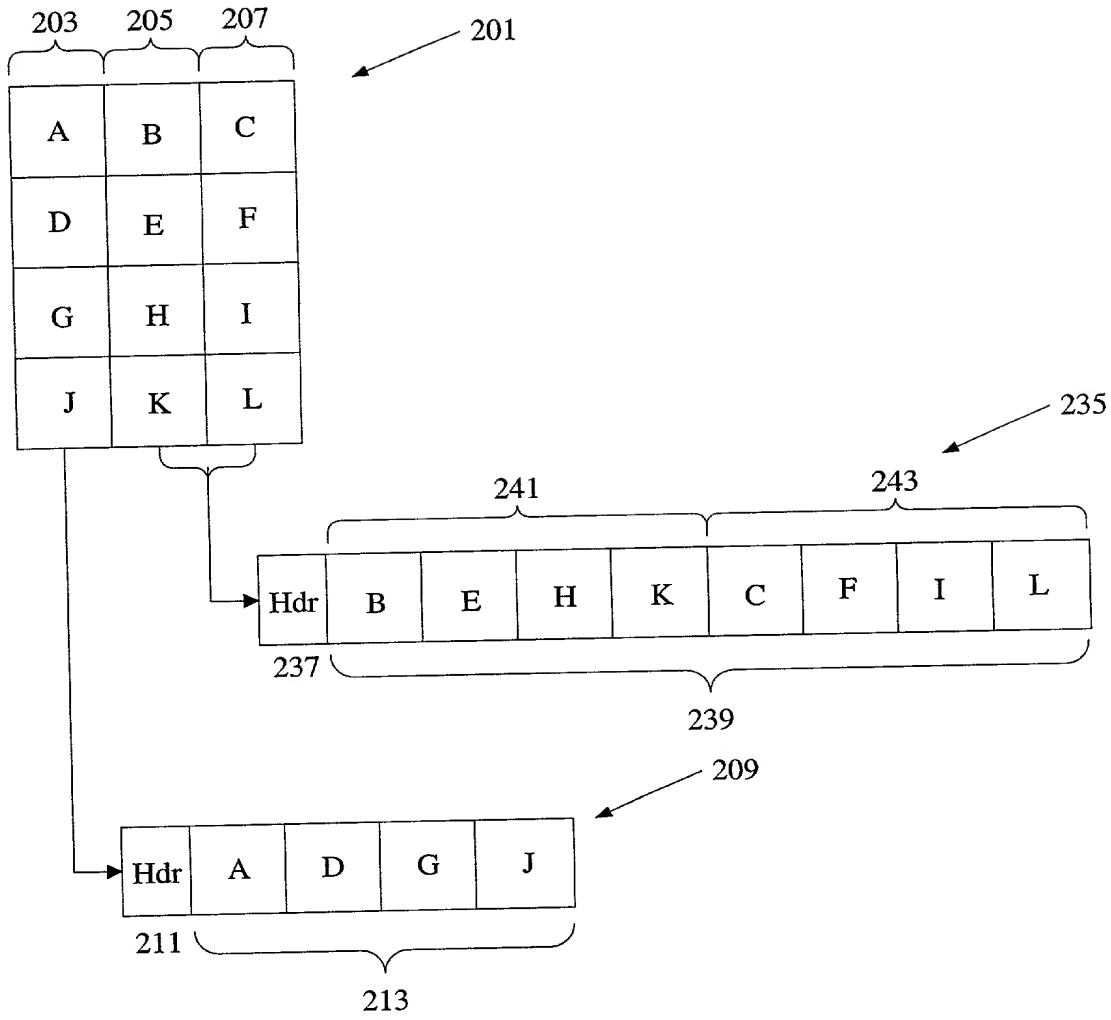
203
205
207
201
A
B
C
D
E
F
G
H
I
J
K
L
235
241
243
Hdr
B
E
H
K
C
F
I
L
237
239
209
Hdr
A
D
G
J
211
213

Figure 2C

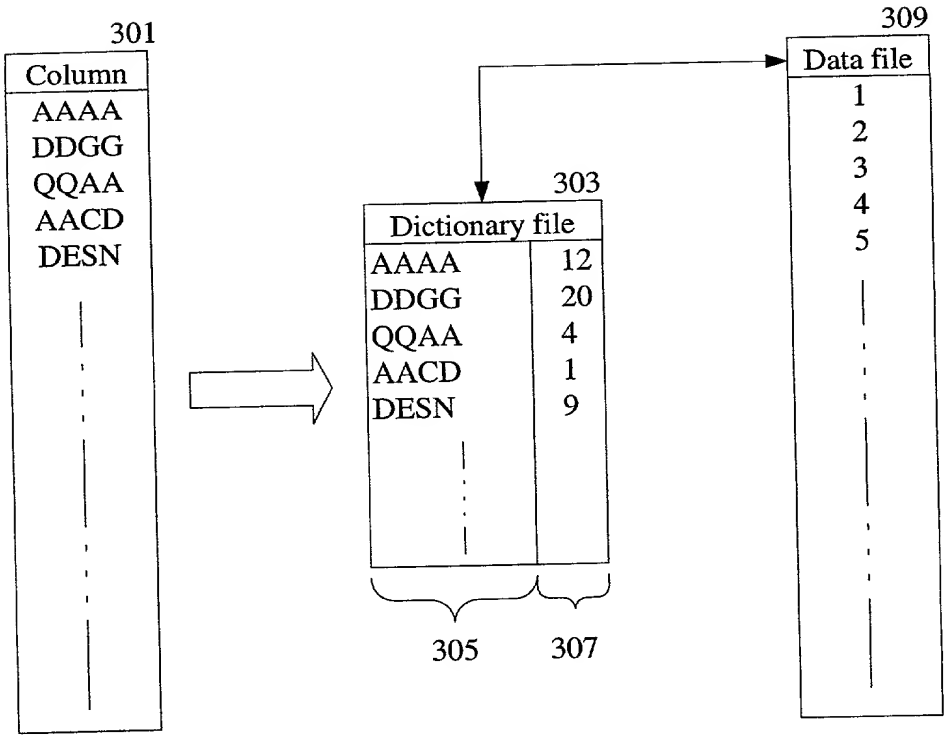

Figure 3A

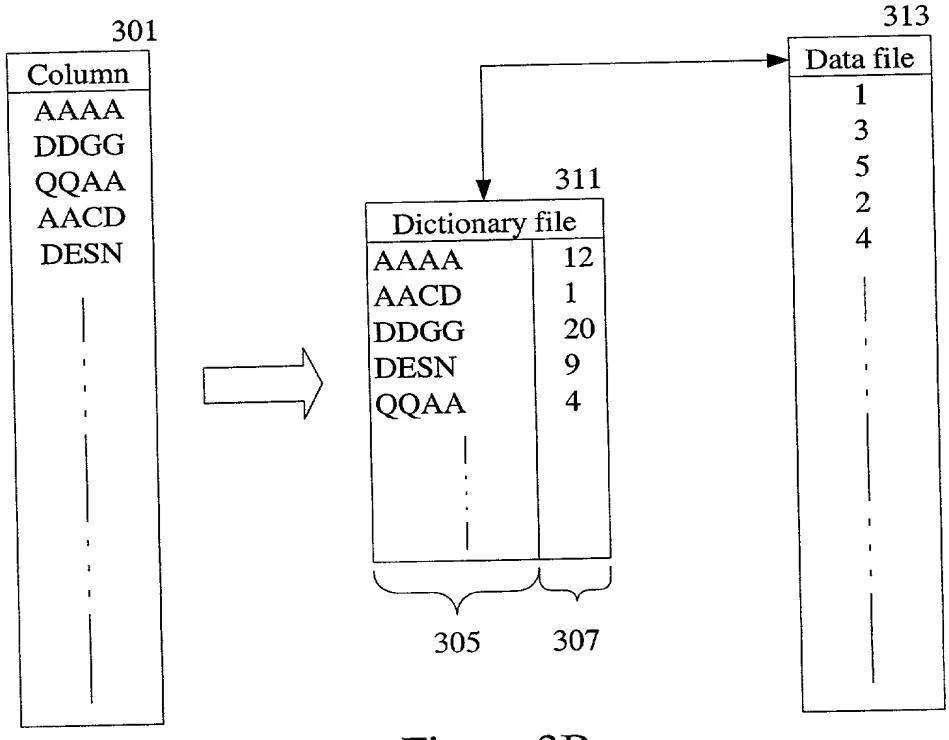

Figure 3B

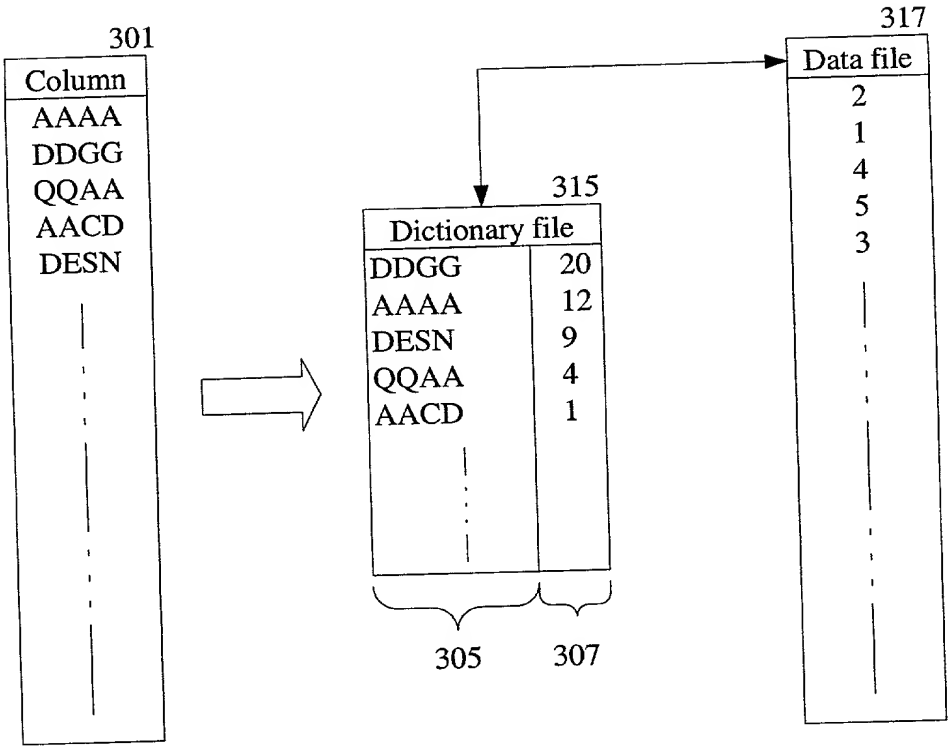

Figure 3C

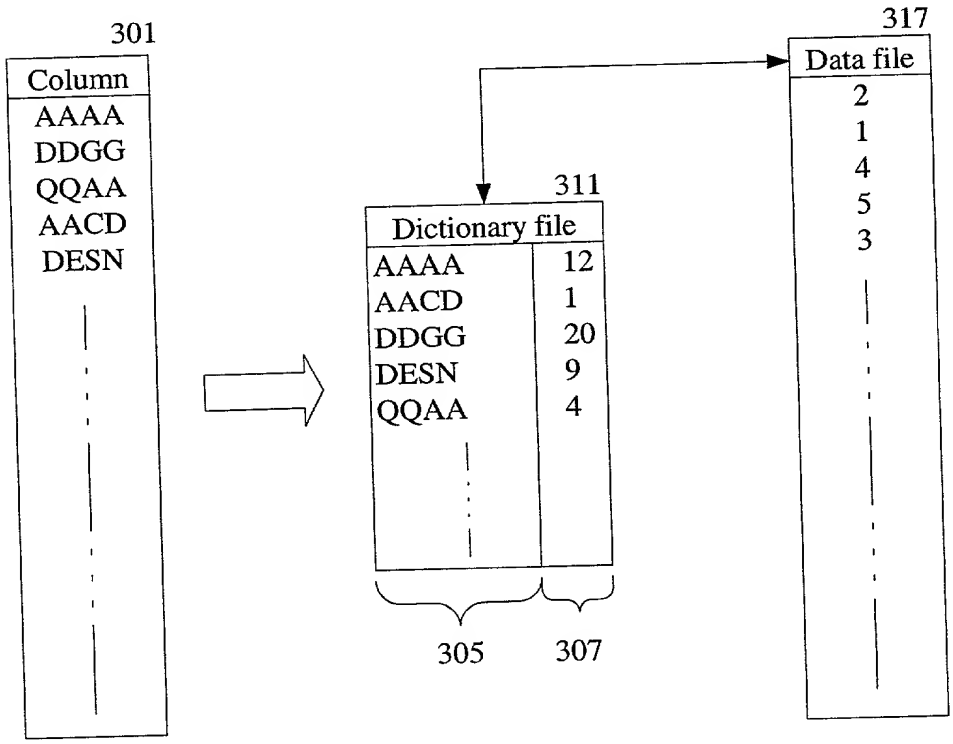

Figure 3D

Sequoia - Oracle

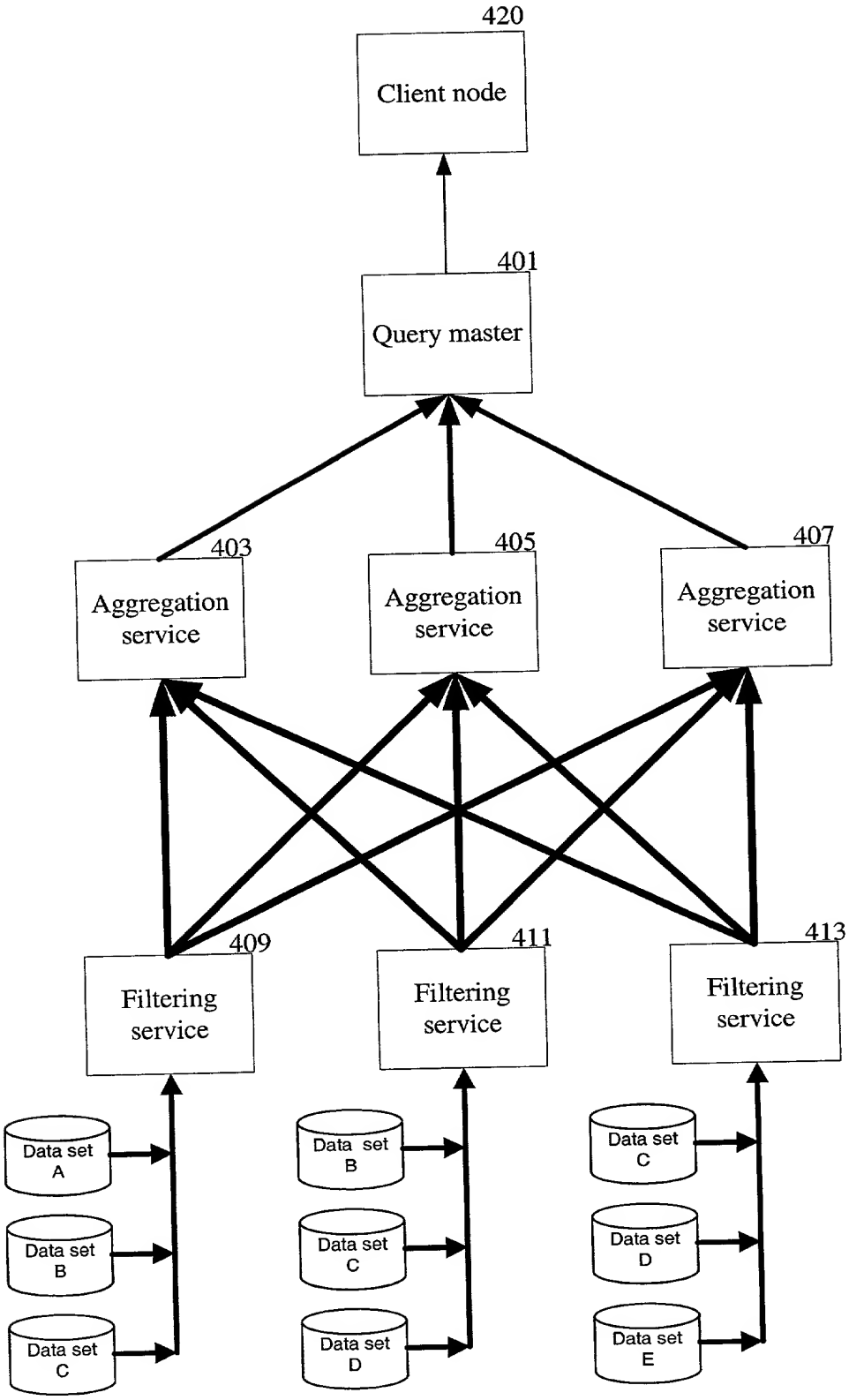

Figure 4A

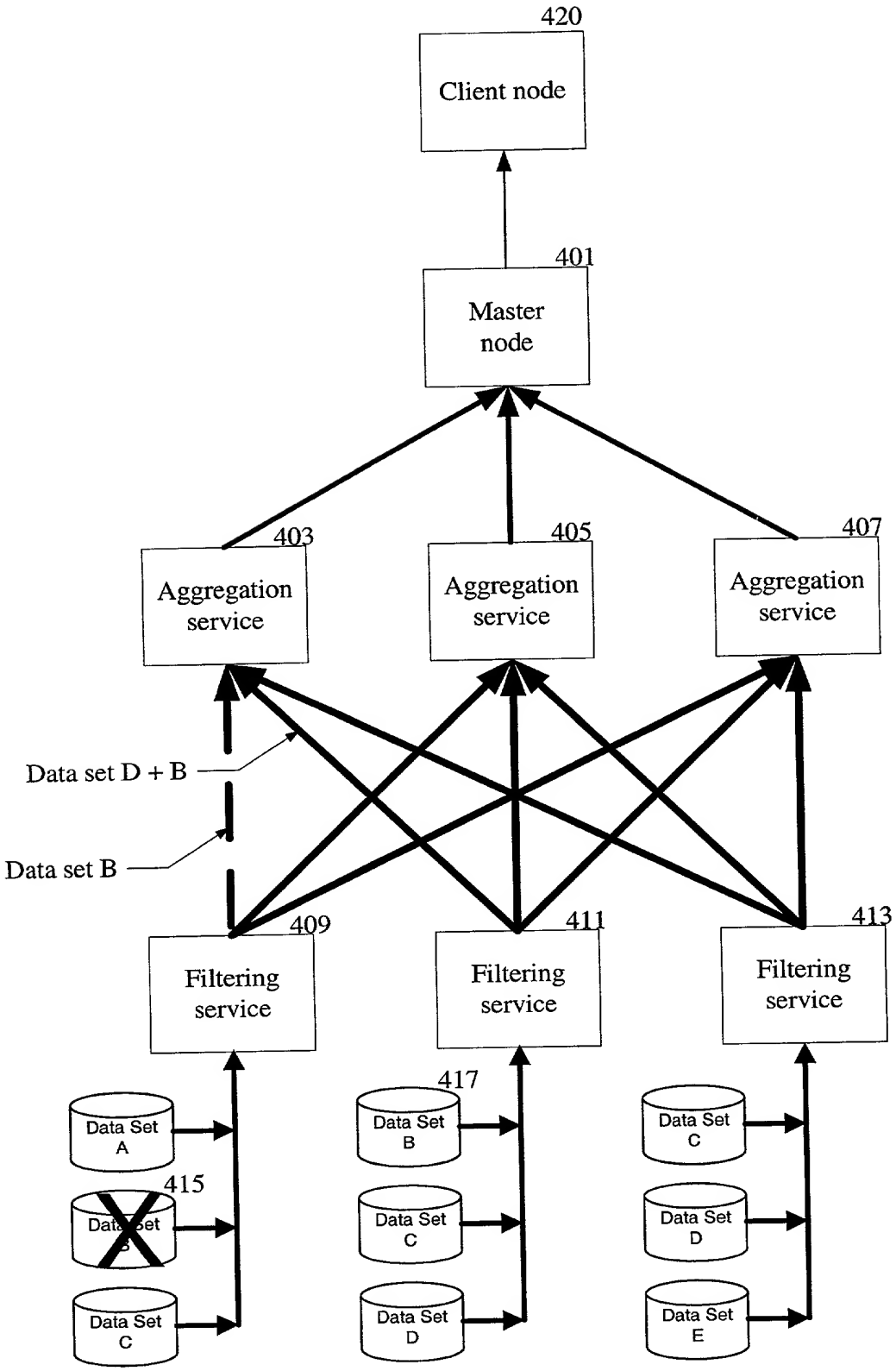
420
Client node
401
Master node
403
Aggregation service
405
Aggregation service
407
Aggregation service
Data set D + B
Data set B
409
Filtering service
411
Filtering service
413
Filtering service
417
Data Set A
Data Set B
Data Set C
415
Data Set C
Data Set C
Data Set D
Data Set C
Data Set D
Data Set E

Figure 4B

Google Exhibit 1008

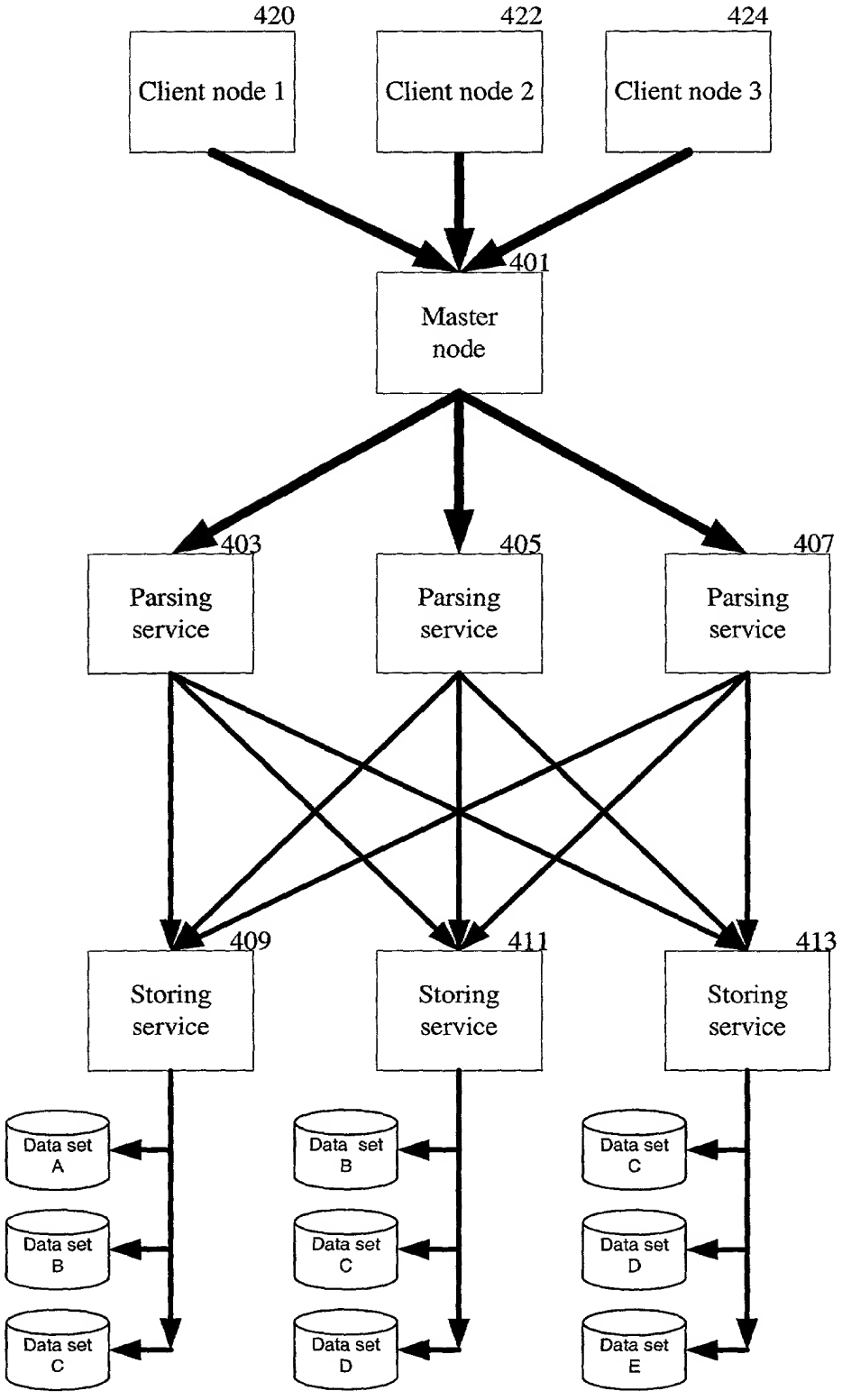

Figure 4C

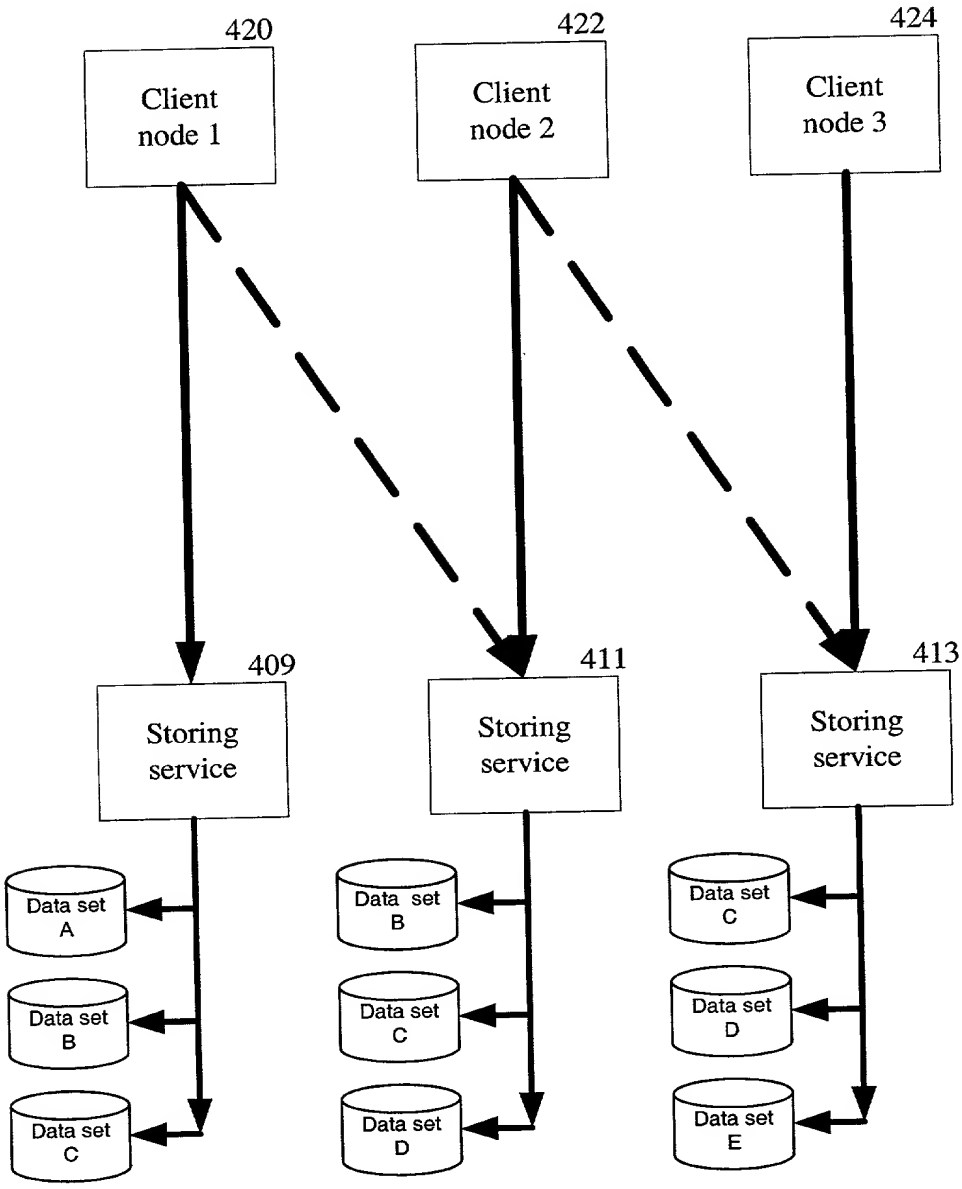
420
Client node 1
422
Client node 2
424
Client node 3
409
Storing service
411
Storing service
413
Storing service
Data set A
Data set B
Data set C
Data set B
Data set C
Data set D
Data set C
Data set D
Data set E

Figure 4D

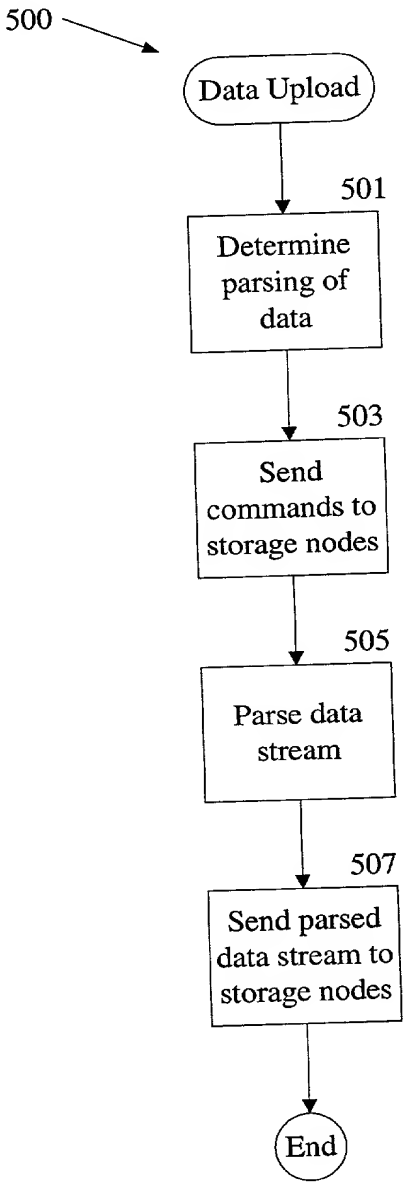

Figure 5A

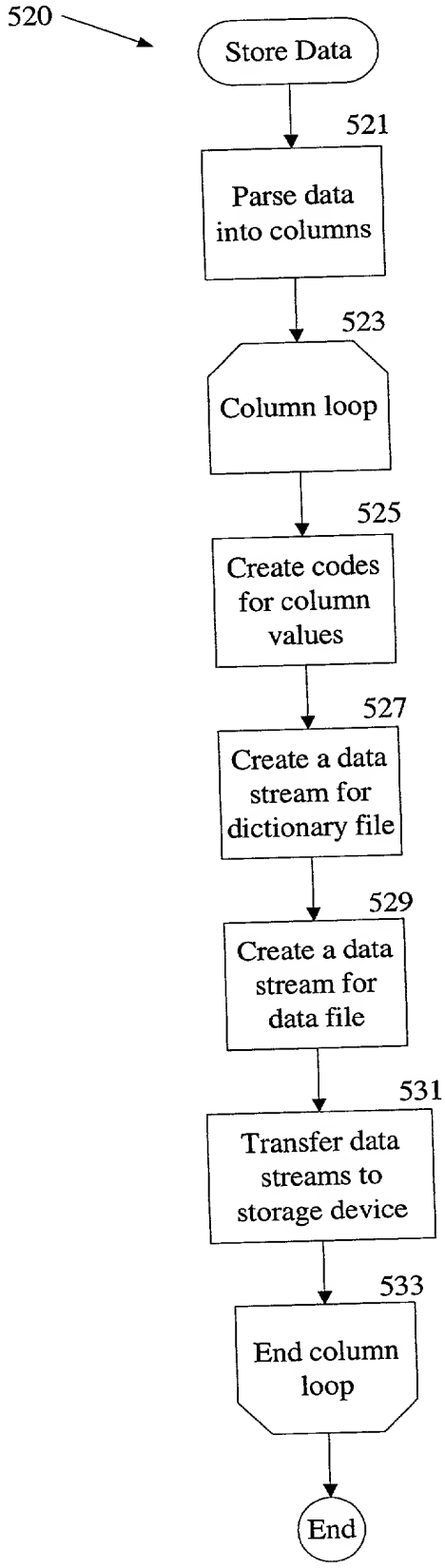

Figure 5B

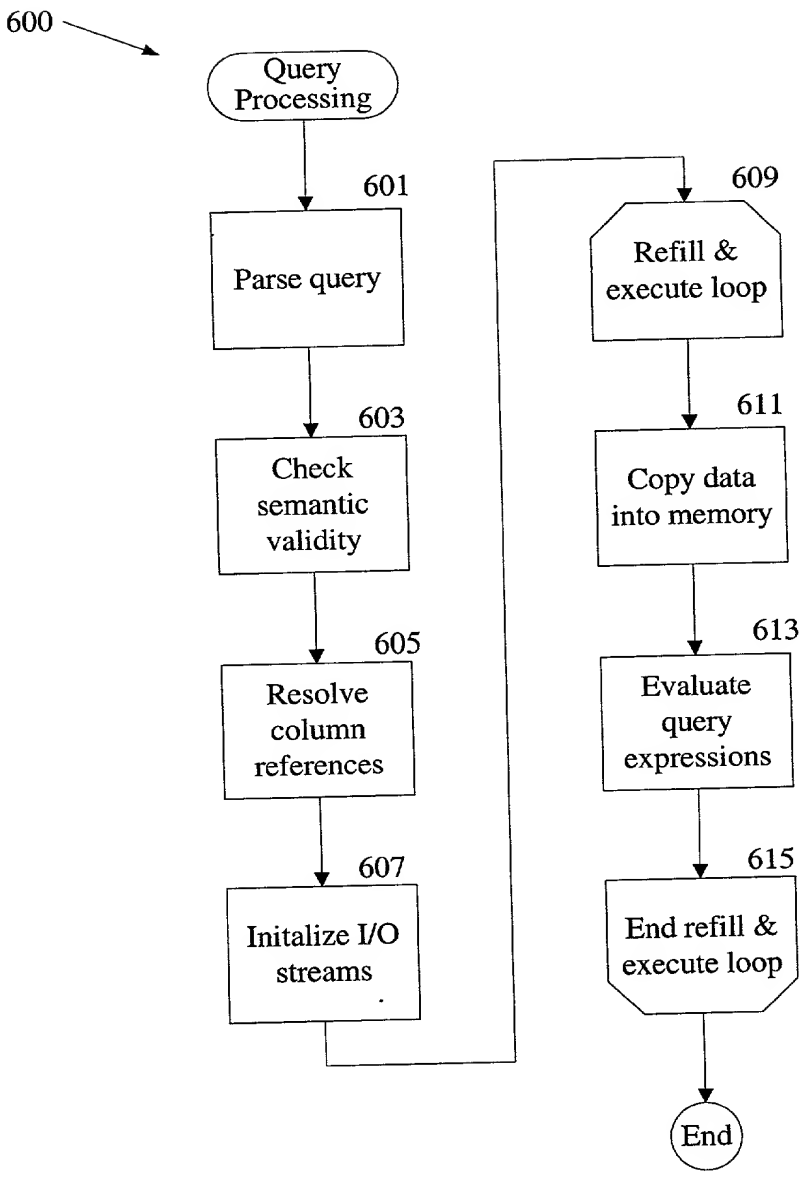
600
Query Processing
601
Parse query
603
Check semantic validity
605
Resolve column references
607
Initalize I/O streams
609
Refill & execute loop
611
Copy data into memory
613
Evaluate query expressions
615
End refill & execute loop
End

Figure 6

Attorney Docket No. 60135-8001.US00

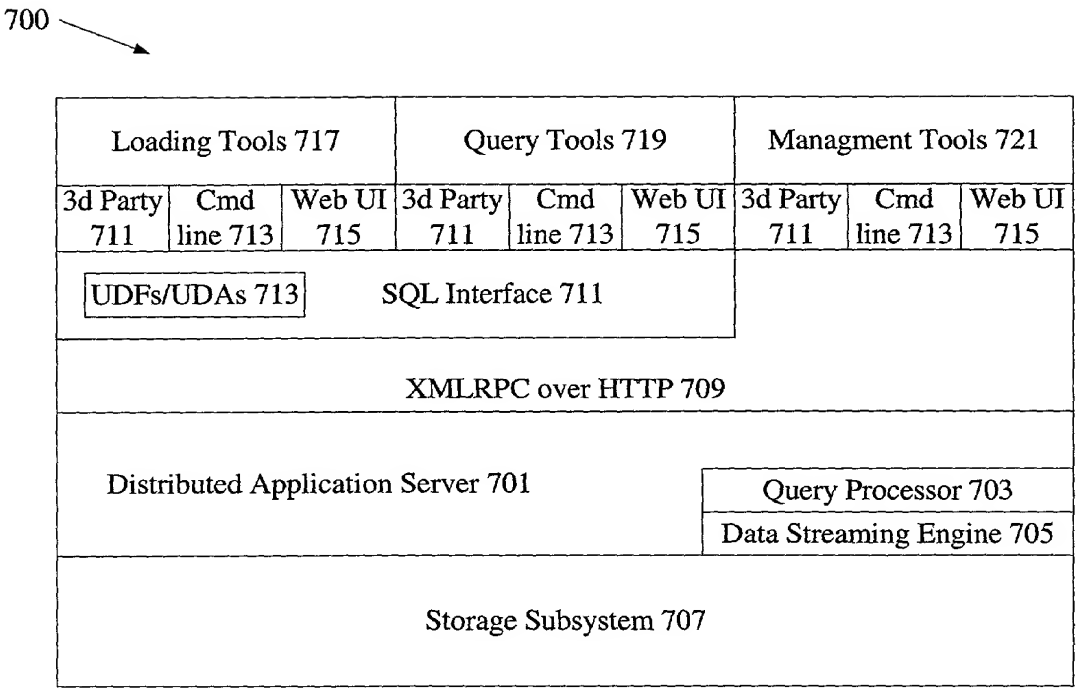

Figure 7

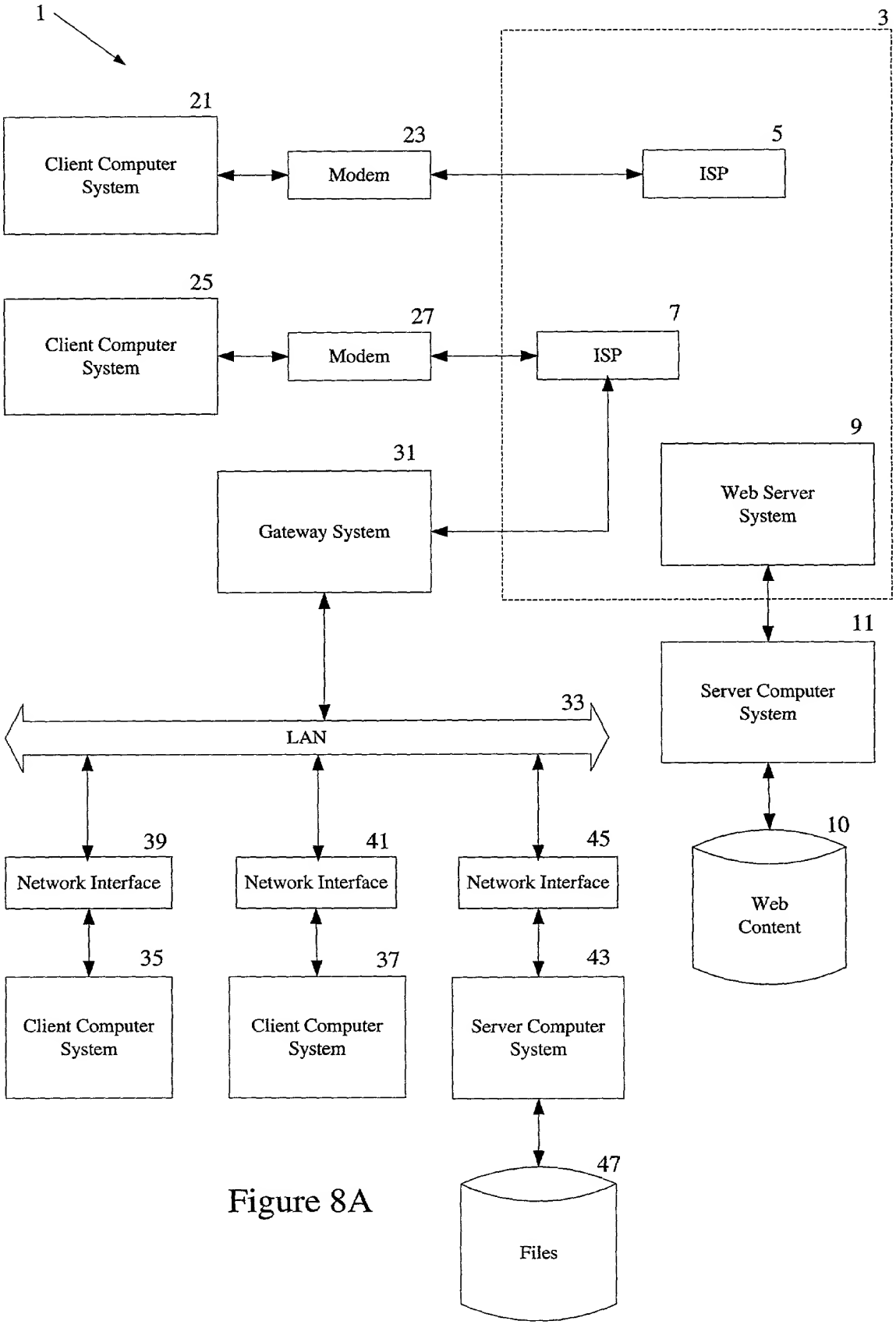
1
3
21
Client Computer System
23
Modem
5
ISP
25
Client Computer System
27
Modem
7
ISP
9
Web Server System
31
Gateway System
11
Server Computer System
33
LAN
39
Network Interface
41
Network Interface
45
Network Interface
10
Web Content
35
Client Computer System
37
Client Computer System
43
Server Computer System
47
Files

Figure 8A

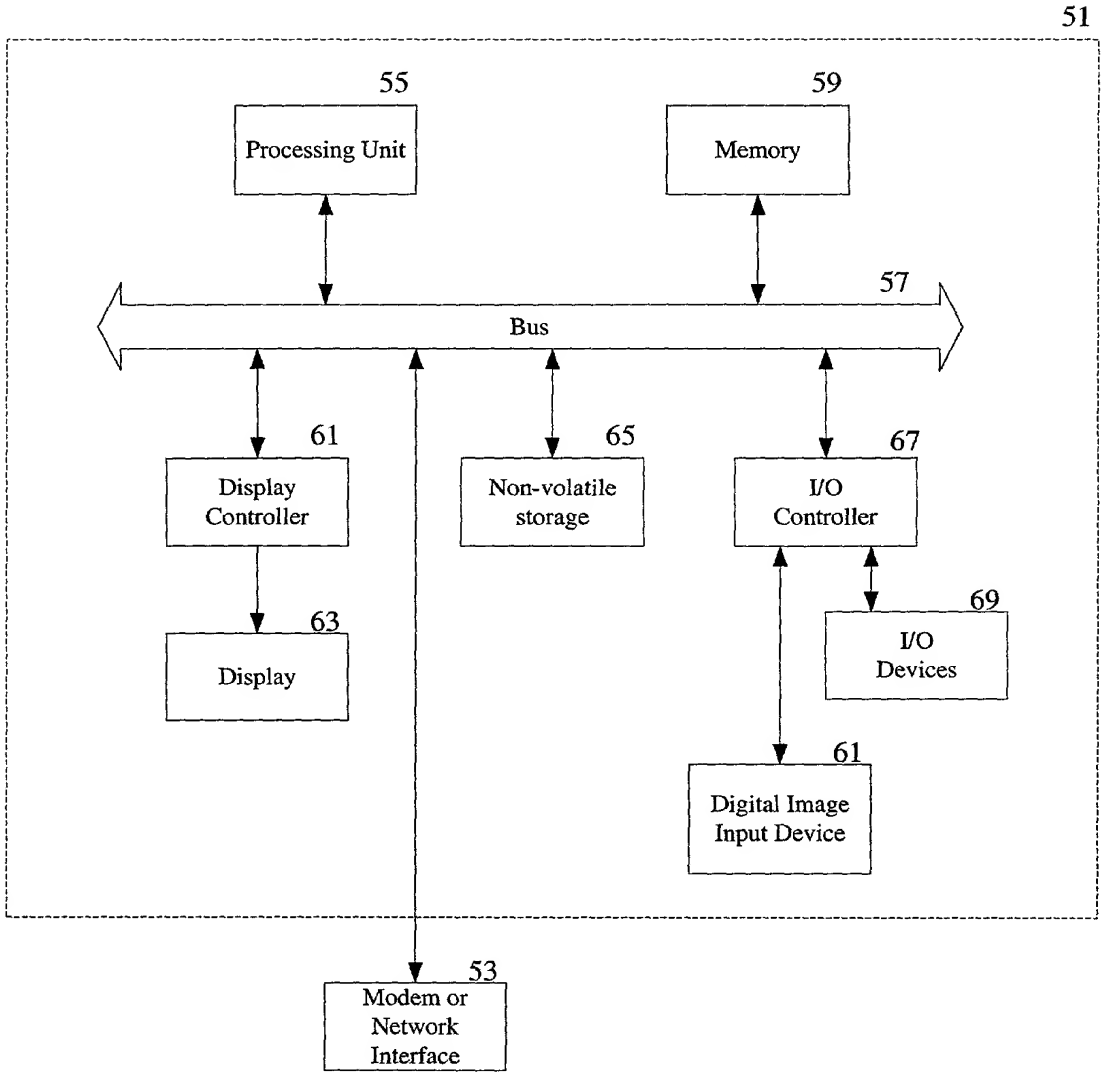
51
55
Processing Unit
59
Memory
57
Bus
61
Display Controller
63
Display
65
Non-volatile storage
67
I/O Controller
69
I/O Devices
61
Digital Image Input Device
53
Modem or Network Interface

Figure 8B